



## FLOODPLAIN MANAGEMENT GOALS

# C

In the January issue of our newsletter I addressed our overall approach to floodplain management and summarized our primary goals. Over the next several months I will expand on each of the goals and detail the steps the District is taking to address them.



# F

Our highest priority is **reducing risk to life and health**. This goal is so obvious that it is almost overlooked at times but we must always focus first on life and health, and second on protecting property. While loss of a home or vehicle is a large impact it pales in comparison to the injury or death of a loved one.

Our most visible and obvious effort to address life safety is our flood warning system. The system is linked with the National Weather Service at Belmont and Yavapai Emergency Management. With a County as large as Yavapai, providing rain and stream gauge coverage is a challenge. Over the years we have improved and expanded the system adding additional repeaters, gauges and weather stations. The system as it stands today provides a good backbone providing a reasonable level of coverage.

We continue to expand the flood warning system and have recently purchased a new server which will provide greatly expanded data presentation and reporting options. Through collection of NOAA and proprietary data, coupled with District GIS resources, we will be able to support a real-time website providing emergency responders the information needed for safe and effective response.

# C

Although the link is not as obvious, our flood hazard studies and mapping are a prime tool in helping people avoid building in or entering areas of higher hazard. On request, we provide property owners a flood hazard evaluation for their individual properties. There is no charge for the evaluation. To get a flood status for your property come into the office at 1120 Commerce Drive, Prescott or, 10 S. 6<sup>th</sup> Street in Cottonwood or email your parcel number and contact information to [floodstatus@yavapai.us](mailto:floodstatus@yavapai.us).

Other avenues of disseminating flood information include public meetings, newsletters and informational flyers. District personnel are happy to provide information or speak at Homeowners Association meetings, Realtor groups, town hall or other gatherings. To schedule a presentation please contact the District.

# D

### Inside this Issue:

Low Impact Development (LID)	2
Gauge of the month	2
LID cont'd	3
Hurricane Sandy by the Numbers	4
District Information	4

## What is Low Impact Development (LID)?

LID includes a variety of practices that mimic preserve natural drainage processes to manage stormwater. LID practices typically retain rain water and encourage it to soak into the ground rather than allowing it to run off into ditches and storm drains where it would otherwise contribute to flooding and pollution problems (see [www.epa.gov/nps/lid](http://www.epa.gov/nps/lid)).



### Why Should My Community Adopt LID?

LID Reduces Stormwater Runoff by Emphasizing Infiltration. As a community grows, so does the amount of surface area covered by parking lots, roads and rooftops. Rainfall cannot soak through these hard surfaces; instead the rain water flows quickly across them—picking up pollutants along the way—and enters ditches or storm drains, which usually empty directly and without treatment into local waterways. Local streams in urban areas are overwhelmed by frequent urban flash flooding and stream habitats are smothered by sediments carried by the excessive flows. Contrast this to an undeveloped watershed, where vegetation-covered soil soaks up rainfall rather than allowing it to run off the land. Water filters through the soil before reaching the groundwater table or being released slowly into streams. An undeveloped watershed provides clean, safe water.



Fortunately, by adding LID solutions, communities can help their watersheds act more like undeveloped watersheds— despite the ever-expanding numbers of roads and rooftops. LID practices such as natural or man-made swales, depressions and vegetated areas capture and retain water onsite, allowing time for water to soak into the soil where it is naturally filtered.

### LID Provides Many Environmental and Economic Benefits

- **Improved Water Quality.** Stormwater runoff can pick up pollutants such as oil, bacteria, sediments, metals, hydrocarbons and some nutrients from impervious surfaces and discharge these to surface waters. Using LID practices will reduce

pollutant-laden stormwater reaching local waters. Better water quality increases property values and lowers government clean-up costs. *(continued on next page)*

**GAUGE  
OF THE  
MONTH**



### UPPER GOLDWATER LAKE

Gauge ID: 300

Gauge Type: Rain/Stage

Watershed: Verde River

Sub-basin: Granite Creek

Location: 2.5 miles SSE of Prescott

Installed: 8/28/2001



## LOW IMPACT DEVELOPMENT (LID) CONT'D

### LID Provides Many Environmental and Economic Benefits

- **Improved Water Quality.** Stormwater runoff can pick up pollutants such as oil, bacteria, sediments, metals, hydrocarbons and some nutrients from impervious surfaces and discharge these to surface waters. Using LID practices will reduce pollutant-laden stormwater reaching local waters. Better water quality increases property values and lowers government clean-up costs.
- **Reduced Number of Costly Flooding Events.** In communities that rely on ditches and drains to divert runoff to local waterways, flooding can occur when large volumes of stormwater enter surface waters very quickly. Holistically incorporating LID practices reduces the volume and speed of stormwater runoff and decreases costly flooding and property damage.
- **Restored Aquatic Habitat.** Rapidly moving stormwater erodes stream banks and scours stream channels, obliterating habitat for fish and other aquatic life. Using LID practices reduces the amount of stormwater reaching a surface water system and helps to maintain natural stream channel functions and habitat.
- **Improved Groundwater Recharge.** Runoff that is quickly shunted through ditches and drains into surface waters cannot soak into the ground. LID practices retain more rainfall on-site, allowing it to enter the ground and be filtered by soil as it seeps down to the water table.
- **Enhanced Neighborhood Beauty.** Traditional stormwater management infrastructure includes unsightly pipes, outfalls, concrete channels and fenced basins. Using LID broadly can increase property values and enhance communities by making them more beautiful, sustainable and wildlife friendly.

When implemented broadly, LID can also **mitigate the urban heat island effect** (by infiltrating water running off hot pavements and shading and minimizing impervious surfaces), **mitigate climate change** (by sequestering carbon in plants), **save energy** (from green roofs, tree shading, and reduced/ avoided water treatment costs), **reduce air pollution** (by avoiding power plant emissions and reducing ground-level ozone), **increase property values** (by improving neighborhood aesthetics and connecting the built and natural environments), and **increase groundwater recharge**, potentially slowing or reversing land and well field subsidence.

### LID Techniques Can Be Applied at Any Development Stage

- **In undeveloped areas, a holistic LID design can be incorporated in the early planning stages.** Typical new construction LID techniques include protecting open spaces and natural areas such as wetlands, installing bio-retention areas (vegetated depressions) and reducing the amount of pavement.
- **In developed areas, communities can add LID practices to provide benefits and solve problems.** Typical post-development LID practices range from directing roof drainage to an attractive rain garden to completely retrofitting streets with features that capture and infiltrate rainwater.



# Hurricane Sandy by the Numbers

A straightforward assessment of the destructive power that raised Sandy to the status of 'superstorm'.

- \$18 billion: Amount the federal government has kicked in for debris removal
- 7 million: Number of people left without power
- 2.5 million: Amount of cubic yards of debris removed to date
- 800,000: Number of daily and public transit customers affected
- 346,000: Homes damaged or destroyed
- 185,000: Number of businesses in New Jersey impacted
- 116,000: Number of people in New Jersey evacuated or displaced from homes
- 41,000: Number of families still displaced from their homes
- 100,000: Number of storm-related unemployment claims
- 17,000: Number of utility workers who came to New Jersey to restore power
- 8,000: Estimated number of jobs lost in November because of Sandy
- 1,400: Number of sunken vessels in the wake of the storm
- 1,000: Number of schools that lost their power
- 6: Number of schools completely destroyed by Sandy
- 600: Number of full or partial road closures
- 127: Number of shelters open at the peak of the storm

## YCFDC Contact Information

### LOCATIONS:

1120 Commerce Dr. Phone: 928.771.3197  
Prescott, AZ 86305 Fax: 928.771.3427

10 S. Sixth St. Phone: 928.639.8151  
Cottonwood, AZ 86326 Fax: 928.639.8118

**Please visit the County website for more information:**

- Applications, Forms and Instructions
- Building Codes
- Community Plans
- Drainage Criteria Manual
- Fees/Impact Fees
- Flood Hazard Status Reports
- Flood Protection Information
- General Plan
- Ordinances
- Regulations
- Storm Water Management Program
- Related Links & More

**[www.yavapai.us](http://www.yavapai.us)**

**COUNTY TOLL FREE TELEPHONE NUMBERS**

**Ash Fork, Bagdad, Seligman, Yarnell 800.771.2797**  
**Black Canyon City and Phoenix Area 602.495.8800**

**COUNTY SWITCHBOARD NUMBERS**

**Prescott 928.771.3100 - Verde Valley 928.639.8100**

The Yavapai County Board of Supervisors also serve as The Board of Directors for the District.

The initial floodplain ordinance was adopted December 1981, and has been revised over the years.

The Drainage Criteria Manual, was first adopted November 1998, and revised August 2005. The current Ordinance and Drainage Criteria Manual are available on line at the County website or may be purchased at the Prescott and Cottonwood District offices.

**Services Performed**

The District is available for assistance or technical advice on the following topics:

- National Flood Insurance Program
- District ALERT System
- Flood Insurance Rate Maps
- Flood Status Information on a Parcel of Land
- Flood Protection & Safety
- Local Flood Hazard
- Development & Permitting within the 100 year floodplain
- Construction in or adjacent to a significant watercourse
- Storm Water Quality and Pollution Control

Flood protection information and links to other agencies are available on the County website. Visit [www.ycflood.com](http://www.ycflood.com) for archived issues of this newsletter.